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ABSTRACT

Drawings on a set subject by Singaporean children were analyzed for correspondence with, or deviation from, the 14 categories used by Elliot Eisner in his 1967 study "A Comparison of the Developmental Drawing Characteristics of Culturally Advantaged and Culturally Disadvantaged Children." Masami Toku's 20 Categories of Spatial Treatment in Children's Drawings was also applied. The study sought to ascertain the incidence and type(s) of universal schema and the possible presence of any localized sociocultural influences. Data were gathered from a 200-strong sample of Secondary Two students (average age was 14) at a Singapore single-sex (boys) autonomous state school, which admits students of above-average academic ranking. The majority of the students were ethnically Chinese, with ethnically Malay and Indian also represented. Students were asked to make two drawings with a 2B pencil, each drawing to be completed in a 30-minute period. A Singaporean modified version of the Clark-Garen Drawing Instrument was used for evaluation. The results are discussed. (BT)

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"A Sociocultural Analysis of Spatial Representation in Drawings by Singaporean Children"

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A SOCIOCULTURAL ANALYSIS OF SPATIAL REPRESENTATION IN DRAWINGS BY SINGAPOREAN CHILDREN

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Research Conference

Introduction

This research was precipitated by the joint presentation of a *Socio-Cultural Analysis of Spatial Representation in Drawings by Chinese and Japanese Children* by Masami Toku of the University of Illinois at Urbana-Champaign and Ming-fai Hui of the Hong Kong Institute of Education, at the InSEA Regional Conference in Tokyo, August 1998. The purpose of the research was similar to the above studies i.e. to ascertain a) the incidence and type(s) of universal schema and b) the possible presence of any localized sociocultural influences. Drawings on a set subject by Singaporean children were analyzed for correspondence with, or deviation from, the 14 categories used by Eisner in his 1967 study "A Comparison of the Developmental Drawing Characteristics of Culturally Advantaged and Culturally Disadvantaged Children". Toku's 20 Categories of Spatial Treatment in Children's Drawings was also applied. Finally Clark's Drawing Abilities Test Scoring Criteria and Values was also used to evaluate the degree of artistic and aesthetic quality. It was felt that any information gathered regarding the children's cognitive development and the type and degree of sociocultural influences might prove useful in the ongoing redesign of the Singapore art curricula.

Method

Data was gathered from a 200-strong sample of Secondary Two students at a Singapore single-sex (boys) Autonomous state school, which admits pupils of above-average academic ranking as measured by the Primary school Leaving Examination (PSLE). The majority of the students were ethnically Chinese, with ethnically Malay and Indian students also represented. The students were distributed among five classes. The average age of the students was early 14.

Procedures

The students were asked to make two drawings using a 2B pencil, each drawing to be completed in a 30-minute period. The drawing pages were presented to the students as a booklet with an instruction top-sheet (see sample). Each drawing sheet contained instructions and a portrait format rectangle (23cm vertical X 20cm horizontal).

Drawing 1:
In the rectangle below, make a drawing of you and your friends in your school playground. Use a 2B pencil and allow yourself no more than 30 minutes.

Drawing 2:
In the rectangle below, make a drawing of a pile of boxes of different sizes that have not been arranged in any order. Some of the boxes are stacked one on top of another whilst some are broken and others torn and dirty with contents of rubbish and empty containers of all sizes spilling out. A few children are seen playing in the area. You have 30 minutes to complete your drawing.

Students were further advised that they could use the rectangle either vertically or horizontally according to personal preference. Students were also reassured that the drawings were for experimental purposes only and would not be marked as part of schoolwork. This was to help alleviate "test anxiety." The top sheet was completed before commencement of the drawings.

Analysis

The drawings were analysed using:

1) **Eisner's 14 Categories of Spatial Treatment in Children's Drawings** as used in his 1967 research, based on extensive research on the use of spatial conventions in the drawings of US children across a wide spectrum of age, ethnicity and socio-economic status.

2) **Toku's 20 Categories of Spatial Treatment in Children's Drawings**. A 20-category instrument developed by Masami Toku through research with US and Japanese children.

3) A locally (Singaporean) modified version of the **Clark-Gareri Drawing Instrument**, a diagnostic tool designed to evaluate entry accomplishment levels of students to the Indiana University Summer Art Program. The objective here was to supply data, which might support the assertion that artistic talent is located on a normal curve of distribution. The modified Clark-Gareri Drawing Instrument analyses three drawings under twelve categories each, using descriptive evaluators to establish mark levels of 1 to 5 in each category. While each category is criterion-based, scores are totaled to give a norm-based position relative to all others in the test groups.

Findings:

Obviously, due to the limited nature of the sample parameters, there can be no broad generalizations made from any analysis of the data. However at a more anecdotal level the data does raise some interesting speculations which indicate that there is scope here for a much broader and more systematic investigation.

Looking at each of the instruments in turn:

1) **Eisner's 14-Categories of Spatial Treatment in Children's Drawings**

There are a very small number of Eisner's categories represented in the sample. This is perhaps not surprising; as Eisner has pointed out, as children grow to adolescence the number of ways of treating space tends to diminish. The main aim of this group seems to be an approximate realism or naturalism, though this is often modified by using a 'cartoon' drawing-style as a more rapid means of communicating intention and meaning. This particular approach could have been augmented by the limited time-period and restricted graphic means (2B pencil).

What is perhaps most interesting is that over 77% of the students could not be identified as belonging to Eisner's 1-13 categories but had to be place in the "Unclassifiable" category 14. In the majority of Eisner's categories (4-13) the underlying paradigm seems to be linear perspective. Each exemplar contains a horizon line and is presented in landscape format. It would be unsurprising if western children unconsciously adopted this paradigm as it pervades the vast majority of both their contemporary and historical visual stimuli. This would have been even more so the case back in 1967. However, if this is so, then it points away from

these categories being universal and instead much more culturally and even historical-period (1960s) located.

Eisner Drawing	Eisner Drawing 1	Eisner Drawing 2
1		
2		
3		
4		
5		
6		
7		
8	1	
9		
10	3	2
11	2	4
12	4	3
13	40	28
14	139	162
Total	189	199

Drawings 1 & 2 by Eisner Ratings: Comparative Distribution

Eisner: Drawings 1 & 2		Toku: Drawings 1 & 2	
1	0	1	0
2	0	2	0
3	0	3	0
4	0	4	0
5	0	5	3
6	0	6	0
7	0	7	0
8	1	8	0
9	0	9	0
10	7	10	5
11	6	11	2
12	7	12	4
13	67	13	115
14	300	14	161
		15	45
		16	4
		17	5
		18	0
		19	0
		20	44

Drawings in Eisner and Toku Ratings: Comparative Distribution

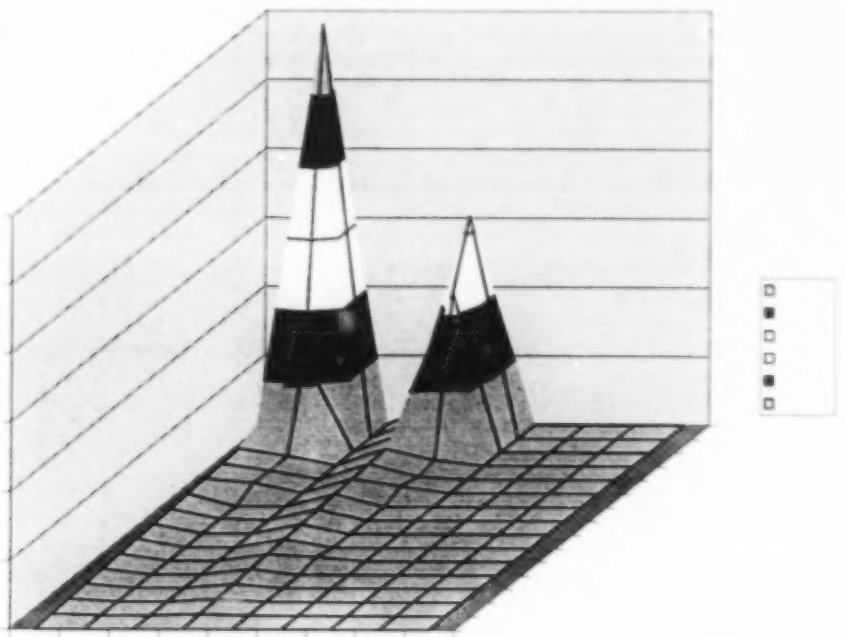
Toku's 20 Categories of Spatial Treatment in Children's Drawings

Toku's instrument was more successful in categorizing those drawings in the sample which fell into Eisner's Category 14 (Unclassifiable). Using Toku's categories 13 – 19 as supplying the parameters for Eisner's category 14, most of the 300 unclassifiable drawings were seen to fit into categories 13 – 15, i.e. 13. Open space; 14. Relative position/size, and 15. Photographic view, with a much smaller representation in categories 16 and 17. Interestingly,

the majority of the drawings in the sample, which fell into Toku's "Unclassifiable" category 20, actually fitted into Eisner's category 13. Category 13 is the closest to the western linear perspective paradigm. On the other hand Toku's categories 13 and 14 are closest to East Asian pictorial paradigms. I am thinking here of Chinese scroll paintings, which are either long verticals or horizontals and use a non-linear perspective with either a very high or no horizon line.

This could be what Hickman (1990) calls a 'benthonic' cultural influence, i.e. one, which is very deep-seated and pervasive. The presence of this 'bird's-eye' view in the work of students who are not ethnically Chinese might be explained by the fact that Chinese culture is the dominant one in Singapore. Alternatively, the bird's–eye view is also very common in South Asian painting.

There are other more localized possibilities, which could only be eliminated by a much bigger and wider body of research. Firstly, Singapore is an intensely urbanized environment. The majority of the students lives in high-rise apartments and therefore is used to seeing things from a very elevated point of view. Also, the art rooms where the drawing activity took place are on the third floor of the school and while the playground was not directly visible to the students, it may have to occurred to many of them to imagine their view-point as being the one they would have had from the walkway directly outside. Both of these could have been contributory factors, reinforcing a 'benthonic' predilection for a bird's-eye view. The lesser presence of both the photographic view (category 15) and exaggerated view does not discount the keen interest the students have in video games graphics, *manga*, Marvel/DC-type comics and graphic novels but is more of an indication of the students' self-perceived limitations in drawing ability. Those students with a greater degree of 'conventional' drawing ability were more likely to attempt the visual effects seen in these sources.



Modified Clark-Gareri Drawing Instrument

Results from the instrument application did not produce a normal curve of distribution: instead the curve showed a marked positive skewing, indicating error, as the interquartile grouping around the median was itself very symmetrical. Various suggestions were made as to the

reasons for the results, the accuracy and validity of the instrument as a means of ascertaining the possible normal curve of distribution of creative drawing talent was called into question. Structural and cultural over-specificity were adduced as possible defects.

Clark-Gareri
(Modified)
Drawing
Instrument

Upper Class Limit	Cumulative Frequency
36-48	0
60	3
72	15
84	35
96	82
108	121
120	153
132	173
144	192
156	198
168	200
180	0

Clark-Gareri (Modified) Test: Distribution

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